

Bringing coatings to life

Performance-engineered precipitated silica



We protect and
beautify the world®



Quality. Consistency. Innovation.

For more than six decades, PPG has supplied high-quality precipitated silica for coatings, paints, gel-coats, adhesives and sealants, enhancing their ability to protect and beautify our world.

From enhancing the efficiency of flattening agents and the sag control of thixotropic silicas to developing sustainably advantaged, non-toxic, anti-corrosion pigments, we have consistently delivered the innovation and technical expertise needed to meet the ever-evolving demands of our customers.

As one of the first manufacturers to bring engineered synthetic precipitated silica to market in the 1930s, we have in-depth knowledge of their functional properties and how they translate into products that meet customer challenges both today and tomorrow.

We see each customer as a valued business partner and are dedicated to providing highly responsive, personalized customer service through trained and highly skilled representatives. A global network of distributors enables us to deliver the products and technologies our customers need to improve product quality, streamline manufacturing, drive innovation and enhance sustainability.



PPG's Silica Products by Coatings Application

Our precipitated silica products are specifically formulated for multiple coating, adhesive and sealant applications.

PPG's Silica Products by Application - Coatings, Adhesives and Sealants																									
	Flattening													Thixotropic		Anti-Corrosion									
	Untreated						Wax-Treated				Functionalized	Untreated		Calcium-Silicate											
	Lo-Vel 27	Lo-Vel 6200	Lo-Vel 275	Lo-Vel/2003	Lo-Vel/6000	Lo-Vel/2000	Lo-Vel 29	Lo-Vel 39A	Lo-Vel HSF	Lo-Vel 9500 LC	Lo-Vel 66	Lo-Vel/9600 LC	Lo-Vel 8300	Lo-Vel 8100	Lo-Vel/2023	Lo-Vel 2018	Lo-Vel M-5	Lo-Vel M-10	HI-SI/T-800	HI-SI/T-152	HI-SI/T-700	HI-SI/T-600	Inhibisi/73	Inhibisi/75	
Coil and extrusion coating	●	■		■				●																	
Electrocoat									■																
Industrial coating	●	■		■	■	■	●	■			■	●	●	●	●										
Decorative paints				●			●	●		●															
Wood coatings	●	●								●	■	■	■	■	●	■	■								
Wooden flooring lacquer	●	●						●		■		■	●	●											
Leather refinishing	●		●	■	●	●	●						●	●	■										
Leather vinyl refinishing	●	●		■	●	●					■														
UV coatings					■			■								■	■	■							
Gel coats																						■	●		
Overprint varnish	■	●								■	●									●	●				
Thin film and paper coatings	■	■							●		■	■	●			●				●	●				
Powder coatings			●																			■	●		
Adhesives (plastisol based)																			■	●	●	●			
Sealants																			■	●	●	●			
Caulks																			●	●	●	●			
Putties																			●	●	●	●			
PE Melamine primer (solvent borne)																							●	●	
PU primer (solvent borne)																							■	■	
Epoxy (waterborne)																							■	■	

■ Preferred ● Recommended



PPG LO-VEL™ Flattening Agents

PPG LO-VEL™ flattening agents are designed to reduce gloss in paints while improving stir-in capability, lowering viscosity and reducing manufacturing costs by making coatings easier to apply.

To meet formulator requirements, our PPG Lo-Vel flattening agents are produced with varying functional properties and degrees of porosity. For low-VOC coatings, for example, we manufacture extremely highly-porous silicas with improved structure to withstand the high shear forces generated during paint manufacturing.

Available as wax-treated, functionalized and non-treated products, PPG Lo-Vel flattening agents are suitable for a wide range of coatings film thicknesses. Compared to non-treated silica, wax-treated flattening agents improve dispersion stability and anti-settling behavior in mostly polar solvent- and waterborne coatings systems. Non-treated PPG Lo-Vel flattening agents are recommended for mostly non-polar solvent coatings systems, or for coatings requiring greater transparency.

With low-conductivity products in our portfolio, PPG Lo-Vel flattening agents enable electrocoat formulators to achieve gloss and crater control without compromising paint application quality.

Flattening Agents - Non Treated: Typical Properties

	Particle Size* (µm)	Grind Value		N2 BET Surface Area (m2/g)	DOA-Oil Absorption Number (mL/100g)	Benefits
		Hegman	Fineness (µm)			
Lo-Vel 27	6	6	25	170	230	Smooth finishes, low oil absorption, easy stir-in (including post-addition).
Lo-Vel 6200	7	6.5	20	700	290	Highest flattening efficiency, high porosity, resistance to over grind, smooth finishes, stir-in grade.
Lo-Vel 275	8	6	25	175	220	Low oil absorption number, easy stir-in (including post-addition).
Lo-Vel 2003	9	6	25	240	255	High flattening efficiency, resistance to over grind, stir-in grade.
Lo-Vel 6000	9.5	6	25	720	270	Highest flattening efficiency, high porosity, resistance to over grind, stir-in grade.
Lo-Vel 2000	10	5.5	32	240	250	High flattening efficiency, resistance to over grind, stir-in grade.
Lo-Vel 29	10	5	38	170	215	Gives films gloss:sheen ratio close to 1:1, low oil absorption number, stir-in grade.
Lo-Vel 39A	11	3.5	57	170	215	Gives films gloss:sheen ratio close to 1:1, surface texture, stir-in grade.
Lo-Vel HSF	13	5	38	170	210	High flattening efficiency, gives films gloss:sheen ratio close to 1:1, low oil absorption, surface texture, stir-in grade.

* Median particle diameter by laser light diffraction.
DOA = dioctyl adipate plasticizing oil

Flattening Agents - Wax Treated: Typical Properties

	Particle Size* (µm)	Grind Value		N2 BET Surface Area (m2/g)	DOA-Oil Absorption Number (mL/100g)	Benefits
		Hegman	Fineness (µm)			
Lo-Vel 9500 LC	5	7	15	130	240	Low conductivity, superior performance in electrocoat formulations.
Lo-Vel 66	6	6	25	85	195	Smooth finishes, low oil absorption, excellent coating package stability.
Lo-Vel 9600 LC	6	6.5	20	130	240	High flattening efficiency, high transparency, easy dispersion.
Lo-Vel 8300	6.5	6.5	20	180	230	High flattening efficiency, high transparency in clear waterborne and solvent borne finishes, excellent settling resistance, smooth finish.
Lo-Vel 8100	8	6.5	20	175	215	High flattening efficiency, low oil absorption, excellent settling resistance, heat age stability and performance consistency.
Lo-Vel 2023	8	6	25	165	235	High flattening efficiency, good resistance to overgrind, low tendency to hard settling.
Lo-Vel 2018	12.5	5.5	32	160	265	Gives films a gloss-to-sheen ratio of close to 1:1. Resistance to overgrind.

* Median particle diameter by laser light diffraction.
DOA = dioctyl adipate plasticizing oil

PPG LO-VEL™ Functionalized Silica

Engineered with a pre-reacted silane surface treatment, our proprietary PPG LO-VEL™ functionalized silica products offer coatings manufacturers a new technology platform for the development of new higher-performing waterborne and solvent-borne coatings and next-generation high-solids ultraviolet-cure (UV-cure) coatings systems.

Suitable for dry film thicknesses of less than 1 mil (20 micron), PPG Lo-Vel products offer easy mixing and dispersion and improved hydrophobicity and reduced film water uptake for more durable coatings. They also deliver minimal viscosity impact to high solids and UV coatings formulations and provide excellent compatibility with multiple cobalt-free catalysts in alkyd coatings systems for improved drying and consistent performance. They improve the natural appearance in wood coatings and the mechanical properties in polyurea systems.

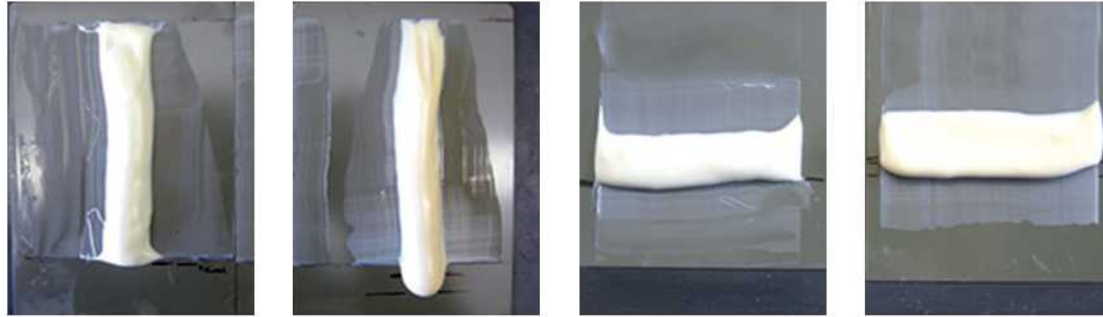
Functionalized Silica: Typical Properties

	Particle Size* (µm)	Grind Value		N2 BET Surface Area (m2/g)	DOA-Oil Absorption Number (mL/100g)	Benefits
		Hegman	Fineness (µm)			
Lo-Vel M-5	5	7	15	80	200	Easy dispersion, improved hydrophobicity, minimal viscosity impact, superior compatibility with Co-free catalysts.
Lo-Vel M-10	9.5	6	25	80	200	Easy dispersion, improved hydrophobicity, minimal viscosity impact, superior compatibility with Co-free catalysts.

* Median particle diameter by laser light diffraction.
DOA = dioctyl adipate plasticizing oil

PPG HI-SIL[®] Thixotropic (Thickening) Agents

PPG HI-SIL[®] silica products improve the formula consistency and sag control of coatings and accelerate their structure recovery. Their proprietary performance properties enable manufacturers to achieve performance, application and rheology properties quickly and cost-effectively. They also can replace fumed silicas in some applications.



Hi-Sil T-800 2 mm Fumed Silica A 10 mm Hi-Sil T-800 3 mm Fumed Silica A 8 mm

Vertical and horizontal sag tests show how Hi-Sil T-800 thickening agent provides sag control that is superior to fumed silica A in the demonstrated application.

Thickeners/Thixotropes: Typical Properties

	Particle Size* (µm)	DOA-Oil Absorption Number (mL/100g)	N2 BET Surface Area (m2/g)	pH	Benefits
Hi-Sil T-800	2.5	270	190	6.9	Superior efficiency in sag control of plastisol-based systems, fast recovery at low shear, cost effective.
Hi-Sil T-152	4	265	130	6.9	Highly efficient, low-cost, viscosity increase of industrial solvent-based compositions.
Hi-Sil T-700	4	275	190	6.9	Highly efficient, low cost, improved sag control for a wide variety of solvent-based compositions.
Hi-Sil T-600	5.5	230	150	6.9	Highly efficient, low cost, thixotropic action for a wide variety of solvent-based compositions.

* Median particle diameter by laser light diffraction.
DOA = dioctyl adipate plasticizing oil

PPG INHIBISIL[®] Anti-Corrosion Pigments

Suitable for a wide range of primer thicknesses, PPG INHIBISIL[®] anti-corrosion pigments are designed to replace chrome-based and other toxic anti-corrosion pigments and can be used in both solvent-borne and waterborne primers. In addition to being non-toxic and sustainably advantaged, PPG Inhibisil silica products are highly efficient and effective at a competitive cost.

Anti-corrosion Pigments: Typical Properties

	Particle Size* (µm)	Grind Value		CaO (%)	pH	Benefits
		Hegman	Fineness (µm)			
Inhibisil 73	3	7	12	7	10	Higher calcium oxide content, elevated protective effectiveness for thin film primers (solvent, waterborne), heavy metal free, non-toxic.
Inhibisil 75	5	6.5	19	7	10	Higher calcium oxide content, elevated protective effectiveness for high-film-build primers (solvent -, waterborne), heavy metal free, non-toxic

* Median particle diameter by laser light diffraction.





PPG: We Protect and Beautify the World®

At PPG, we work every day to develop and deliver the paints, coatings and specialty materials customers have trusted to protect and beautify their most valuable assets.

Our global leadership is founded on a legacy of innovation that dates to its founding in 1883 and now encompasses 50,000 employees working in more than 70 countries. With three major research and development centers near our headquarters in Pittsburgh and other technical facilities around the

world, hundreds of millions of dollars are invested each year to create new and improved products, and to adapt existing technologies to fit the needs of our customers, markets and applications.

These development efforts are directed at more than making better products. Sustainability and productivity are the driving forces behind all our research initiatives, whether the goal is to improve our customers production processes or to make products that are more energy efficient or easier to recycle or dispose.

To learn more about PPG's silica products, please visit www.ppgsilica.com.

USA
PPG Monroeville Business and Technical Center
440 College Park Drive
Monroeville, PA 15146 USA
1-800-243-6745

EUROPE
PPG Delfzijl Plant
P.O. Box 181
9930 AD Delfzijl, The Netherlands
Customer Service: +31-596-676710



We protect and beautify the world®

Statements and methods presented are based upon the best available information and practices known to PPG at present, but are not representations or warranties of performance, result or comprehensiveness. Further, the information provided herein, including any specific reference to patents of other persons or entities, is not to be taken as a license to operate under or a recommendation to practice any patents, copyrights, or any other intellectual property right of any person or entity.

© 2023 PPG Industries, Inc. All Rights Reserved. The PPG logo, Hi-Sil, Inhibisil, and We protect and beautify the world are registered trademarks and Lo-Vel is a trademark of PPG Industries Ohio, Inc.

2886 EN 0323